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10/666,017	09/18/2003	Yves Gaignet	MCA-579	7951

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EXAMINER	
KURTZ, BENJAMIN M	
ART UNIT	**PAPER NUMBER**
1723	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/666,017	GAIGNET ET AL.	
	Examiner	Art Unit	
	Benjamin Kurtz	1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 June 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2 and 4-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 4-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-2, 4-5, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (4990248). Regarding claim 1, Brown discloses a cylindrical container with fluid inlet and outlet orifices at the first of one of its axial ends. Brown also discloses a pretreatment means within the cylindrical container (fig 5 #72 and column 2 lines 32-33). Brown discloses the treatment means being a cartridge including one or more selectively permeable membranes. Brown also discloses a separator means dividing the container into internal and external cylindrical spaces consisting of an impermeable barrier layer that surrounds the outer surface of the membrane. The impermeable barrier layer performs the identical function in substantially the same way with substantially the same result as the cylindrical wall, cylindrical skirt and the ring disclosed in the application. The impermeable barrier layer divides the container into two distinct cylindrical spaces that extend from the bottom of the container to the top therefore preventing fluid from bypassing the outer pretreatment as well as providing a flow path for the fluid (figure 5 #71). Brown also discloses that the two cylindrical spaces communicate with one another via one or more passages at the second axial end of the container (figure 5 #74 and column 7 lines 60-65). Brown

also discloses that the pretreatment means are housed in the external space and the treatment means are housed in the internal space (column 7 lines 32-34 and figure 5 pretreatment #72, treatment #70). Brown also discloses the external cylindrical space communicating with an inlet orifice at the first axial end of the container (figure 5 #54 and column 10 lines 44-49). Brown also discloses the internal cylindrical space communicating separately with two outlet orifices at the first axial end of the container (figure 5 #56 and #58 and column 10 line 65 - column 11 line 3 and column 10 lines 52-64). The cartridge is a reverse osmosis cartridge including a cylindrical enclosure (column 12 lines 48-50), a hollow, perforated, central innermost tube (62), (the tube (62) is the innermost tube of the reverse osmosis cartridge), that shares the axis of the cylindrical container (figure 5 and column 5 lines 42-49), and one or more selectively permeable reverse osmosis treatment membranes (column 5 lines 42-44 and column 4 lines 6-16). Brown also discloses that the membrane communicates with the central tube to collect the permeate (column 4 lines 20-23) and that the membrane communicates with the fluid from the pretreatment means and with the outflow of retentate at the exterior of the reverse osmosis membrane via the annular faces of the cartridge (column 4 lines 26-29). Brown teaches the tube (62) being the innermost tube of the cartridge but not of the cylindrical container. It would have been obvious to one of ordinary skill in the art at the time the invention was made to remove the post-filter (75) should it be desirable to replace less than the entire filter cartridge (col. 10, lines 38-42) and omission of an additional filtering step would be obvious if this feature were not desired, *In re Larson*, 144 USPQ 347 (1965). Upon removal of the post-filter the tube

(62) being the innermost tube of the cartridge would also be the innermost tube of the cylindrical container.

Regarding claims 2 and 4, Brown discloses that the cartridge is a reverse osmosis filtration cartridge (column 2 lines 43-44 and column 3 lines 50-56). A means for providing a sealed connection between the separator means and the cylindrical enclosure of the reverse osmosis cartridge that is attached to and extends around the cylindrical enclosure. Brown discloses a spoked wheel with a cylindrical rim extension that is joined and sealed to the outside of the barrier layer (the outer surface of the reverse osmosis membrane). The spoked wheel performs the identical function in substantially the same way with substantially the same result as the sleeve with an extended annular seal as disclosed in the application. Both means provide a seal that prevents the inlet fluid from bypassing the pretreatment means.

Regarding claims 5 and 23, Brown discloses the pretreatment means as chosen from the group comprising activated charcoal, polyphosphates and frontal filtration elements (column 8 line 53 – column 9 line 52). The central tube (62) is closed at the same end where fluid enters the reverse osmosis cartridge (sealed at (79) with cap (63) fig. 5).

2. Claims 6, 7 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown (248) in view of Regunathan et al. Patent No. 4,645,601. Regarding claim 6, Brown (248) discloses the module including a cylindrical wall (52) closed at the first axial end by a non-removable head (51) including three parallel connectors (54, 56, 58) but does not disclose a non-removable bottom (fig. 5).

Regunathan (601) teaches a reverse osmosis assembly with a cylindrical pressure vessel (28) with a non-removable bottom (fig 1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the pressure vessel as taught by Regunathan (601) with the module as taught by Brown (248). The design of the pressure vessel (28) avoids the piece-by-piece removal and replacement of a used reverse osmosis module (col. 1, lines 61-63).

Regarding claim 7, Brown (248) does not disclose the connectors (54, 56, 58) extend perpendicular to the axis of the container (50). Regunathan (601) teaches a head (30) with three parallel ports (50, 52, 54) with connectors that can take various forms to accommodate the construction of the particular head member with which it is to be associated (col. 3, lines 8-11). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the connectors to be perpendicular to the axis of the container to fit a head member adapted to connect to a module with perpendicular ports.

Regarding claims 18-20, Brown (248) further discloses the head (51) and the bottom (63) each include a bush (head bush at 53d, bottom bush at 79d) housing an axial end of the central tube (62), a seal (59d) is between the bush and the tube (63) housed in a groove formed in the central tube (63), and the bush communicates with the second orifice (58) (fig. 5). The bush is a nesting retainer.

Regarding claim 21, Brown (248) further discloses a central truncated cone (joined to the tube (62) at 79') inside the central tube (62) and it projects over a longer distance from the inner face of the bottom than the bush of the bottom (fig. 5).

3. Claims 8, 10-12 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown (248) in view of Regunathan (601) as applied to claims 6-7 above and further in view of Whittier et al. Patent No. 5,078,876. Regarding claim 8, Brown (248) discloses the separator means include a cylindrical wall (71) and a skirt (53) projecting from the internal face of the head (51) (fig. 5). Brown (248) does not disclose a ring projecting from the face of the bottom. Whittier (876) teaches a water filter with a ring (28) extending from the internal face of the bottom (fig. 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the ring as taught by Whittier (876) in the module of Brown (248). The ring (28) positions the filter medium and defines a flow path (col. 6, lines 5-8).

Regarding claim 12, Brown (248) teaches housing the wall (71) within the skirt (53) therefore it would have been obvious to one having ordinary skill in the art to house the wall (71) within the ring (28) as taught by Whittier (876) because the skirt provides a bearing surface for the wall (71) for sealing (col. 7, lines 17-19).

Regarding claims 10-11, Brown (248) further discloses the cylindrical skirt (53) has the wall (71) housed concentrically within it with a seal (59d) in an annular recess between them (fig. 5).

Regarding claim 22, Brown (248) further discloses a porous disk (35) in the vicinity of the axial ends of the container but not retaining the pretreatment means. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the disk for the pretreatment means. The porous disks function to keep the carbon granules within the filter (col. 4, lines 61-63).

4. Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown (248) in view of Regunathan (601) in view of Whittier (876) as applied to claim 8 above, and further in view of Burrows Patent No. 5,221,473. Regarding claim 13, Brown (248) in view of Regunathan (601) in view of Whittier (876) teaches a ring (28) of the bottom but do not teach that ring being crenellated. Burrows (473) teaches a crenellated ring of the bottom of a reverse osmosis cartridge (fig.4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the ring as taught by Burrows (473) in the module as taught by Brown (248) in view of Whittier (876). The ring allows water to pass through it to a central tube (fig. 5, col. 8, lines 24-25).

Regarding claims 14-16, Burrows (473) further discloses the ring includes locating means (160) taking the form of patterns (160) projecting from the internal face of the bottom of the container, the ring holds a cylindrical wall (142) of a separator means at a an axial distance from the face of the bottom, and the ring includes recesses between the crenellations forming axial abutments for the wall (142) (fig. 4 and 5, col. 8, lines 20-28).

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brown (248) in view of Regunathan (601) in view of Whittier (876) as applied to claim 8 above, and further in view of Petrucci et al. Patent No. 4,948,505. Brown (248) in view of Regunathan (601) in view of Whittier (876) teach the filter module but do not teach the head being glued or welded together. Petrucci (505) teaches the top cover (134) bonded to the main housing (54) by welding (col. 9, lines 48-50). It would have been

obvious to one having ordinary skill in the art at the time the invention was made to use the welding as taught by Petrucci (505) in the filter module because the canister is easily and economically fabricatable (col. 9, lines 3-5).

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brown (248) in view of Regunathan (601) in view of Whittier (876) as applied to claim 8 above, and further in view of Gundrum et al. Patent No. 5,891,334. Brown (248) in view of Regunathan (601) in view of Whittier (876) teach the filter module but do not teach centering fingers. Gundrum (334) teaches a cylindrical separator wall (33) with radially extending fingers (34) extending to the container wall (25) in the vicinity of each axial end of the wall (33) (fig. 2 and 5). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the fingers as taught by Gundrum (334). The fingers (34) define a flow passageway between the separation wall (33) and the container wall (25) (col. 4, lines 51-67).

Response to Arguments

7. Applicant's arguments filed 6/27/07 have been fully considered but they are not persuasive. The embodiment of claim 5 is referenced in the rejection of claim 1 and contains all the elements of claim 1.

Applicant has argued that Brown '248 does not teach a cartridge housed in the cylindrical space. Brown teaches the filter module having a selectively permeable membrane and a prefilter. The word cartridge does not impart any structural limitation to the claim. Because Brown teaches all of the structural limitations of the claim the rejection is proper. It appears the applicant is stating that a cartridge is removable from

a pretreatment means to change the two elements independently. This limitation is not stated in the claims nor is it in the specification

Conclusion

8. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin Kurtz whose telephone number is 571-272-8211. The examiner can normally be reached on Monday through Friday 8:00am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Benjamin Kurtz
Patent Examiner 1723
8/2/07

KRISHNAN MENON
PRIMARY EXAMINER